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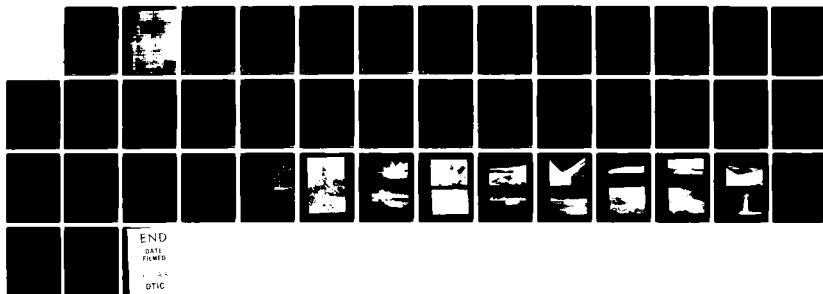
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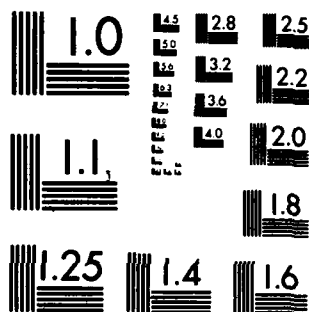
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CULTURAL RESOURCES RECONNAISSANCE
REPORT FOR THE SAIPAN SMALL BOAT
HARBOR STUDY AREA, SAIPAN, COMMON-
WEALTH OF THE NORTHERN MARIANA IS.

Pacific Studies Institute
March 1980

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CULTURAL RESOURCES RECONNAISSANCE REPORT
FOR THE SAIPAN SMALL BOAT HARBOR STUDY AREA,
SAIPAN, COMMONWEALTH OF THE
NORTHERN MARIANA ISLANDS

by
Michael R. Thomas
Samuel T. Price

Prepared for:

U.S. Army Corps of Engineers
Pacific Ocean Division
Contract No. DACW84-79-C-0028

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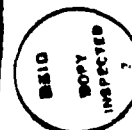
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We wish to thank Mr. Jesus Pangelinan of the Commonwealth of the Northern Mariana Islands Historic Preservation Office for making valuable information pertinent to the survey available. In addition, we wish to thank Ignacio and Maria Lutulemar (Petyang and Nautow), Augino Omar (Augino), Juan Seman (Gilichegmal) and Elena Teregeyo (Lesareigh), whose interest in the project and whose helpfulness during the survey were invaluable. Also deserving special mention is Mr. Tony Angui who acted as field assistant for the project.

ABSTRACT

Members of the Pacific Studies Institute and Maritime Historian, Mr. Ronald Strong, of Pacific Basin Environmental Consultants conducted an archaeological and historic reconnaissance survey of the Saipan Small Boat Study Area under contract DACW84-79-C-0028 with the U.S. Army Engineer Division, Pacific Ocean Honolulu, Hawaii. The study area consisted of the reef flat north of Micro Beach, and the Fishing Base Dock and channel area west of Garapan, Saipan, Commonwealth of the Northern Mariana Islands.

As a result of a literature search and visual inspection of the survey area several objects from the Japanese, World War II, and American periods were discovered within the study boundaries. Two of these items, a small caliber Japanese anti-aircraft gun and a Japanese lighthouse or channel marker, are considered potentially eligible for nomination to the National Register of Historic Places and so may require protection from future construction activities.

INTRODUCTION

This is a report of the archaeological and historical reconnaissance for the Saipan Small Boat Harbor Study, Saipan, Commonwealth of the Northern Mariana Islands under contract DACW84-79-C-0028 with the U.S. Army Engineer Division, Pacific Ocean, Honolulu, Hawaii. Activities necessary for the completion of the reconnaissance survey were performed by staff members of the Pacific Studies Institute (PSI), Agana, Guam, and by Mr. Ronald D. Strong of Pacific Basin Environmental Consultants, a Maritime Historian, from 1 through 6 November 1979, according to the Scope of Work of 22 August 1979, and revised on 10 September 1979. The reconnaissance activities included 1) a background literature search, 2) a physical survey of the project are, and 3) interviews with local informants.

The purpose of the survey was to determine the presence or absence of any archaeological and/or historical remains within the project boundaries or any immediately adjacent areas, and to determine the significance of such cultural resources with regard to their possible eligibility for inclusion in the National Register of Historic Places. In addition, the survey was to determine how to avoid or mitigate any adverse impacts to historic properties which might result from the proposed construction activities, thereby assisting the U.S. Army Corps of Engineers in complying with section 106 of the National Historic Preservation Act of 1966 as amended (PL 89-665) and related authorities.

Description of the Survey Area

The Small Boat Harbor Study areas are located on the west central coast of the island of Saipan, Commonwealth of the Northern Mariana Islands (Figure 1 and 2).

Saipan is the second largest island in the Marianas chain, covering an area of approximately 48 square miles. The shape of the island, the northeasterly trend of ridges and terraces, is related to fault patterns and the orientation of the geanticlinal submarine ridge from which the island rises (Cloud, et al 1956). The western coastal plain in which the survey area is located is floored by loose and recently deposited calcium carbonate sand.

The northern portion of the survey area (Figure 3) consists of a shallow area dotted with patch reefs and seagrass beds between Micro Beach and the channel entrance for the small boat harbor built by the Japanese during World War II. The water in this area is generally less than 2M in depth (mean low tide), the tidal range being ordinarily less than one meter. Coral is rather rare on this sandy flat but occasional Acropora, Stylophora, and Porites are seen. Beds of turtle grass (Enhalus sp.) are common, as are the brown algae Padina sp. and Sargasum sp.. As one would expect, the faunal community is a reflection of the physiographic limitations of the sandy reef flat with blennies (Blenniidae), damselfishes (Pomacentridae), squirrelfishes (Holocentridae), and parrotfishes (Scaridae) being the most common residents.

The southern portion of the survey area is adjacent to what is currently referred to by local residents as the Fishing Base Dock in Garapan (Figure 4). For the purpose of this report,

this southern area is subdivided into two parts, the dock area and the channel area. Beginning from the northern dock a channel runs seaward cutting into the lagoon floor to a depth ranging from 3 to 6M. From the dock area, the channel runs southwest to the edge of the barrier reef where it is marked by a small lighthouse. Although previously dredged, the area near the docks has shoaled so that the depth of the water rarely exceeds 2M.

In the dock area the marine environment is similar to that in the northern survey area near Micro Beach, with the exception that coral is more plentiful. Enhalus and Sargasum remain common on the sandy bottom and the most common fish are consistently blennies, damselfish, and squirrelfish. Non-resident species appear more frequently in this area, however, with occasional jacks (Carangidae) being seen.

The bottom of the existing channel area is sandy and devoid of most coral but the edges of the channel are lined with Acropora, Stylophora, and Porites. The greater depth of the channel relative to the dock area and the greater abundance of coral result in a corresponding increase in the number and variety of fish in this area. Triggerfish (Balistidae), surgeonfish (Acanthuridae), and eels (Muraenidae) were observed in the coral lining the channel, to name but a few.

Culture History

The limited archaeological investigations undertaken in the Mariana Islands by Dilatush (1950), Marck (1977), Osborne

(1952, 1961), Pellet and Spoehr (1961), Reed (1952), Reinman (1977), Spoehr (1957), Takayama (1971, 1976), Dean Thompson (1977) and Laura Thompson (1932) have led to the suggestion that the prehistory of this area can be divided into two phases. The earlier period, the pre-latte, is characterized by Redware pottery, a red-slipped and well-made ware tentatively dated at 1527 B.C.. The second or latte phase is characterized by stone uprights (latte) and plainware pottery, a thick, more crudely made ware dated at about 845 A.D..

Reinman's later investigations on Guam tend to support the ceramic typology outlined above, but expand the analysis utilizing temper as a better means of differentiating between Redware (calcareous sand temper) and Plainware (volcanic sand temper) types. Whether this temper distinction holds for Saipan and the Northern Marianas, however, remains to be proven.

The settlement pattern data for Saipan are superficial at best, but seem to indicate that most villages were located near the shore. A few interior sites are known which may be similar to those described on Guam (Reinman 1977; Dye, Price, Craib 1978), but recent archaeological surveys in the Chalan Kanoa area suggest that certain sites on the west coast of Saipan that now seem to be "interior" may actually be associated with older coastlines (Thomas and Price, 1980).

Unfortunately, Spoehr's early investigations as well as recent surveys have produced minimal information about the prehistory of near shore environments and especially in the

Garapan area. Current surveys (Thomas and Price, 1980) suggest that the prehistoric settlement patterns along the west coast of Saipan were directly affected by fluctuations of sea level and shoreline movement.

In the middle 1500's, when the islands were discovered by Europeans the number of inhabitants was estimated at over 100,000 with Guam being the most populous. By 1668 the population estimate had become 50,000 and by the first census in 1710 it had been increadibly reduced to 3,539 native islanders (Harvey 1920). Filipino and Carolinian laborers were imported in order to bolster the flagging population and to increase the cultivation of cash crops such as corn, sugarcane, cacao, indigo and cotton. People were also brought together into a number of central villages to ease the Spanish administrative burden, but the unsanitary conditions which prevailed further reduced the population. In fact, in the late 1700's people were reportedly removed from all the inhabited islands in the Northern Marianas so that Guam could continue to serve as the rest and refitting station for the Manila Galleons passing from Acapulco to Manila.

An attempt was made to resettle Saipan, with the founding of a city near Garapan in 1810 by a Hawaiian-American group, but after five years they were deported by the Spanish. In 1842 the town of Garapan was established by Carolinian colonists marking the permanent return of people to that island. Chalan Kanoa and San Antonio were reestablished shortly afterwards by both Chamorro and Carolinian colonists and have remained Saipan's major population centers.

In 1899 Germany purchased the Northern Marianas from Spain and made Saipan their administrative center. Although some attempts were made to organize community services and stimulate both economic and social growth the German period was too short-lived for their plans to bear fruit. In 1914 the Japanese, who were interested in the Marianas as a way of relieving some of their own social and economic problems, took the Northern Marianas from its small German administrative staff. After World War I their right to develop the islands was granted in the form of a mandate from the League of Nations (Clyde 1967).

Unlike previous administrations the Japanese period was marked by the influx of Japanese, Okinawan, and Korean farmers and laborers to stimulate economic development. By the outbreak of World War II Saipan was home to approximately 30,000 people the majority of whom were immigrants. Garapan and Chalan Kanoa were the major population centers during this period, but the almost exclusively foreign workforce remained rural-residential rather than urban, inhabiting small farms on the outskirts of the mills and trade centers. Local Chamorro and Carolinian peoples were largely displaced as a result to rural-agricultural areas, generally further removed from the towns than the foreign laborers.

Garapan was a major trade, transportation and communications center at this time boasting almost 6,000 buildings (Figure 5) while Chalan Kanoa, equally large, was the hub of the sugar industry.

Japanese development plans were cut short, however, by the approaching war. In the late 1930's the island administrators began spending more time in constructing defensive works than in economic development. In early 1940 the civilian population began to feel the pressure of a wartime economy and by 1944 were physically and emotionally exhausted.

In the American invasion of Saipan the major population centers took the brunt of the attack. Garapan was for all practical purposes totally destroyed and Chalan Kanoa nearly so (for an account of the invasion see Craven, W. and James Lea Cate, ed. 1953; and Crowl, 1960). American reconstruction efforts were largely directed to the Chalan Kanoa area with little if any attention to Garapan other than as a storage area.

Expectations

Based on the background literature review, several expectations were held regarding the type of archaeological and historical material which might be found in the survey areas.

a. In a previous survey (Thomas and Price, 1979) it was determined that the shore line in the northern reconnaissance area, adjacent to Micro Beach, is an area of recent deposition. When this is coupled with the fact that prehistoric sites on the west coast of Saipan are generally found well back from recently developing shore lines (Thomas and Price, 1980) the survey team did not expect to find prehistoric site on the lagoon floor in the Micro Beach area. Likewise, shore-line development and sediment deposition patterns made it unlikely

that a prehistoric site existed in the area of the Fishing Base Docks. Finally, as the channel had been cut into the hard coral lagoonal bottom it was also dismissed as a potential area for a prehistoric deposit.

b. With regard to historic material from the Spanish, German, and Japanese periods, the survey team did not expect to find any remains from before the 1930's since pre-war invasion, and post-war modifications had so extensively affected the area.

c. Despite the fact that neither Garapan nor Micro Beach were invasion areas the surveyors did expect to find invasion related materials such as ordinance, weapons, remains of invasion or support craft, and post-war detritus.

In terms of potentially important material, or that which might prove eligible for nomination to the National Register, the small lighthouse was thought to be of probable value and the possibility existed that significant war related material would be discovered which should be preserved.

RECONNAISSANCE SURVEY

Field Methods

The field phase of this investigation began with discussions between PSI staff members and the project historian, and the Commonwealth of the Northern Mariana Islands Historic Preservation Office (HPO). Additionally, throughout the fieldwork period close contact was maintained with representatives of the CNMI government and local people to ensure close cooperation during the reconnaissance.

The physical investigation of the survey areas began with a cursory examination to plan the best approach to the reconnaissance. From this initial study it was decided that because of the size of the areas, and the water depth and clarity, the lagoon floor at both survey sites and the Garapan channel would be inspected from a boat along set transects. The existing small boat harbor channel in the American Memorial Park, because of the extreme cloudiness of the water and its presumed depth, would be examined by swimming transects along the bottom with the aid of Scuba equipment (see Figures 3 and 4 for transect locations). In the event that an object was discovered from the boat the survey team would examine it more carefully with the aid of snorkeling equipment. The object would then be mapped, photographed, and identified so that its significance could be determined.

Rowing and swimming the transects was accomplished as planned, but unfortunately the weather during the survey period hampered the investigation somewhat. High wind made rowing over the choppy reef area difficult and sediment stirred by the waves clouded the water. Despite this inconvenience the area was surveyed as scheduled and it is felt that the results are an accurate assessment of the historic properties the areas contain.

Survey Results

In the Micro Beach area the survey resulted in the discovery of several objects from the World War II period (a post-war aerial photograph, Figure 6, reveals the extent of modification

from this period).

Object number one was reported by informants to be the remains of a Japanese Tugboat which was employed in the 1930's. As may be seen in Figure 7, the boat is in very poor condition.

Object number two (Figure 8), also aground on the small boat harbor channel breakwater, may be the remains of an American LVT (Landing Vehicle, Tracked) but it is so badly decomposed that its identification must remain doubtful.

Object number three is a small American-made fuel storage barge which is in all probability left over from the post-invasion period (also visible in Figure 8).

Object four is actually a scatter of several American-made items all dating from the post-invasion or post-war period. A sunken channel marker, steel ships' portholes, anchors, and unidentified metal fragments were all observed in the area (Figure 9). The largest item (pictured in Figure 10) is apparently an oval steel pontoon of the type often used in floating bridges or docks.

Objects five, six, seven, ten and twelve are all remains of rectangular multi-purpose steel pontoons. These are common in Saipan, and virtually everywhere the American Navy supported ground forces, their wide variety of uses accounting for their ubiquity. As indicated in Figure 11 their condition is generally poor.

Object eight (not pictured) is what remains of a small American harbor craft. Its exact type is unknown as the state of preservation is very poor. Still identifiable are the ribs, small

foredeck, and engine mount.

Object nine is a Japanese Harbor dredge (Figure 12) associated with it is the bucket with which it once kept the harbor free of silt. According to local informants there were two such imported dredges operating in Saipan before the war, but the location of the second is unknown. The steel hull and deck of the boat are in fair condition when compared with the pontoons in the same area, but it is doubtful that the boat could be moved.

Object eleven is a small caliber (probably 37mm) Japanese anti-aircraft gun (Figure 13). As is indicated by the map (Figure 3) it is quite near shore and stands in only 1M of water. At low tide a few centimeters of the barrel are in fact exposed. Although it was difficult to assess the condition of the gun because of the cloudiness of the water it is apparently in fair condition and still intact.

No objects were discovered as a result of the Scuba transects which were searched in the existing small boat harbor channel (object twelve being aground on the breakwater in plain view). Although the extreme cloudiness of the water in this area prevented visibility of more than 1M the surprising shallowness (generally around 2M in the center) makes it unlikely that objects rising above the silty bottom were missing by the survey team or by the small boats which constantly use the harbor.

In the area of the Fishing Base Docks in Garapan, according to local informants, the structures themselves were constructed

by the Japanese in the same area as the earlier German and possibly even a Spanish dock. The northern-most dock consists of a concrete wharf fronted by wooden pilings (Figure 14). Also according to local informants, this structure was the public and commercial dock for the city of Garapan during the German and Japanese eras. The southern dock (Figure 15) was not as large, and today consists of a pile of rubble near the shore fronted by wooden pilings, as in the case of the northern dock. Again according to local informants, the southern dock was the official Japanese dock supporting customs, immigration and coastguard facilities. It is unknown whether this southern dock also existed during the German period. After the American invasion of Saipan in 1944 the docks were repaired and used extensively to off-load support equipment and supplies. With the withdrawal of American forces after the war, maintenance of the docks lapsed, allowing them to deteriorate to their present condition.

Associated with the northern dock is a scatter of metal items identified here as object thirteen (Figure 16). Glass bottles, low pressure cylinders, tires, and unidentified metal fragments litter the bottom immediately seaward of the pilings. A metal cartwheel was also observed in this area which may have been used on baggage or supply carts before the war.

Object fourteen is the rusted hulk of a multi-purpose steel pontoon which is aground on a pile of rubble dredged from the present channel along the southern side of the dock (Figure 17).

Object fifteen is in fact a scatter of debris similar to that found seaward of the northern dock (Figure 18). Among the debris is another multi-purpose steel pontoon which is sunken between the pilings.

Object sixteen is located near the mouth of the channel Garapan and is yet another multi-purpose steel pontoon, which has settled in about 4M of water (Figure 19).

Object seventeen is a small concrete channel marker which stands on the barrier reef at the southern edge of the channel entrance (Figure 20). The structure, referred to as a lighthouse, has three components. The base is a large concrete trapazoid standing in 1.5M of water at mean low tide. The second component is a concrete pillar with a height of approximately 3M. On the north face of the pillar is the remains of a row of metal rungs which were used to climb to light the lamp. As may be seen in the photograph the rungs have vanished leaving only their sockets in the concrete. At the top of the concrete pillar is a collar of the same material which is broken on the north face to admit a climber. The collar supports a metal box on the seaward side housing the kerosene lamp which marked the channel. Whether or not a roof or some additional structure topped the pillar could not be ascertained as the pillar can no longer be climbed.

According to local informants the lighthouse was constructed by at least the early 1920's, although none remembered its actual construction, and was part of the Japanese coastal navigation system.

Each of the three major harbors, the Sugar Dock in Chalan Kanoa, the Garapan Dock and what was later called Charley Dock in Tanapag Harbor was marked on the reef by channel markers and range lights. These lights could then be aligned with the inland lighthouse located on Navy Hill to give a ship's position offshore. That some form of channel marker was present in the 1920's can be seen on the early map, (Figure 5), but the figure does not indicate whether the structure was the concrete one still in the area, or a more temporary marker. Regarding the age of the structure, informants who are longtime residents of Garapan were interviewed separately and all agreed that the lighthouse had "always been there". This lead some to believe that it was of German manufacture, but since most informants were children when the Japanese administration began in 1914, the memory of the construction of this particular structure may have been efaced. According to a local architectural historian the design of the structure and the materials used in its construction are very similar to those of existing Japanese structures erected in the early 1920's (Jack Jones, Personal Communication).

Unfortunately, the information obtained from local informants could not be corroborated by written material. In fact, the list of navigation aids in the Japanese annual report to the League of Nations in 1937 indicates that the island of Saipan had no form of lighthouse (Japan, 1937), but the possibility remains that the report may have been deliberately falsified.

Today, the lighthouse marking Garapan channel is structurally sound and in generally good condition despite the pounding it takes when the seas are rough.

Discussion

It is doubtful that any large items remain undetected in the reef area off Micro Beach since the area has apparently been shallow for some time. Although shoaling has occurred it has not decreased the depth to an appreciable extent. In the area of the American Memorial Park small boat harbor channel, however, the initial dredging by the Japanese in the late 1930's or early 1940's was according to local informants, to a depth of approximately 4M. Today its depth is only 2M, leaving approximately 2M of sand and silt. Because of this covering the possibility remains that potentially significant objects could be brought to light by dredging activities.

In the southern survey area at the Garapan Docks shoaling has also occurred which might conceal potentially significant objects from the World War II period, or before. (For World War II ordinance recovered in the study area see Marshall 1979).

Since the PSI survey was a visual one it is therefore suggested that a magnetometer survey proceed dredging activities in areas where the Depth of the harbor or channel is to increased.

SUMMARY

Impact of the Proposed Project on Archaeological and Historical Resources

The survey of areas to be affected by construction in the Saipan Small Boat Harbor project revealed no material from before the period of the Japanese administration on Saipan. In the northern survey area three types of materials were observed: pre-war Japanese harbor maintenance craft, the Japanese anti-aircraft gun, and American post-invasion support craft and debris. Only one of these objects (object twelve) would be impacted by channel modification. Objects one through eleven would obviously be impacted by modification of the reef flat depending upon the type and extent of modification.

In the southern survey area all objects with the exception of the lighthouse (object seventeen) and some of the miscellaneous items are American post-invasion support craft and metal debris. Modification in the dock area would have a direct impact on object scatters thirteen and fifteen and on object fourteen. Modification or dredging of the channel would impact object sixteen and channel widening could impact object seventeen if it included widening the southern boundary of the channel entrance.

Significance of Material in the Project Area

In the northern survey area none of the considered objects, with the exception of object eleven, are eligible for nomination to the National Register and, thus, may not be of historic significance.

Object eleven, the Japanese anti-aircraft gun, is considered significant because of its conformation to 36 CFR 60.6, the criteria for evaluating the eligibility of a property for nomination to the National Register. In this case the gun played a role in an event which made a significant contribution to the pattern of the history of Saipan. Furthermore, although it has been manufactured within the last fifty years, the scarcity of such guns in the Marianas, and the possibility of its restoration make it of exceptional value.

In the southern area, as in the north, the objects discovered by the survey other than the possible pre-war cart wheel are mostly from the American post-invasion period and are not considered historically significant, and thus may not be eligible for nomination to the National Register. The single exception in this area is the Japanese channel marker or lighthouse. It is the only remaining coastal light from before the war and embodies the distinctive characteristics of a type. In addition, it was an integral part of the coastal navigation system which also included an inland lighthouse on Navy Hill, a National Register property.

In terms of the docks themselves, further investigation will be required to determine their eligibility for the National Register, but they are considered of historic significance. The original docks in the Garapan area may have been constructed during the Spanish period, but evidence has not yet been collected to support this supposition. By the German period (i.e. around

1900) the Garapan dock was almost certainly built in the area now containing the Fishing Base Dock, but whether remains of the structure exist under or near the present dock is unknown. How the Japanese may have modified or incorporated the earlier dock(s) into the present structures is also not known.

In conclusion, reconnaissance has resulted in the location of three items of probable historic significance; the Japanese coastal light and Garapan docks in the southern project area, and the Japanese anti-aircraft gun in the northern area. Of the remaining objects none are considered historically significant and so may be ineligible for nomination to the National Register.

Recommendations

Based on the results of the survey it is recommended that steps be taken to ensure the safety of object eleven, the anti-aircraft gun and object seventeen, the coastal light during project construction. Regarding the anti-aircraft gun, it is specifically recommended that it be removed from its present location and preserved either at the Saipan Museum or at the American Memorial Park, which is currently being developed in the Micro Beach area.

Regarding object seventeen it is recommended that construction plans be designed which do not endanger the integrity of the structure either directly, by removal of the coral on which it rests, or indirectly by exposing it to greater wave action from channel traffic. Further, more intensive investigation

might reveal more of the history of the lighthouse, and might explore the possibility that the lighthouse could be re-used or restored as an aid to navigation. In addition, further investigation into the construction and use of the docks at Garapan should be undertaken in order to determine their eligibility for nomination to the National Register of Historic Places.

Finally, it is recommended that a member of the CNMI Historic Preservation Office be present during dredging or other excavation activities so that any material which comes to light may be evaluated in terms of its significance.

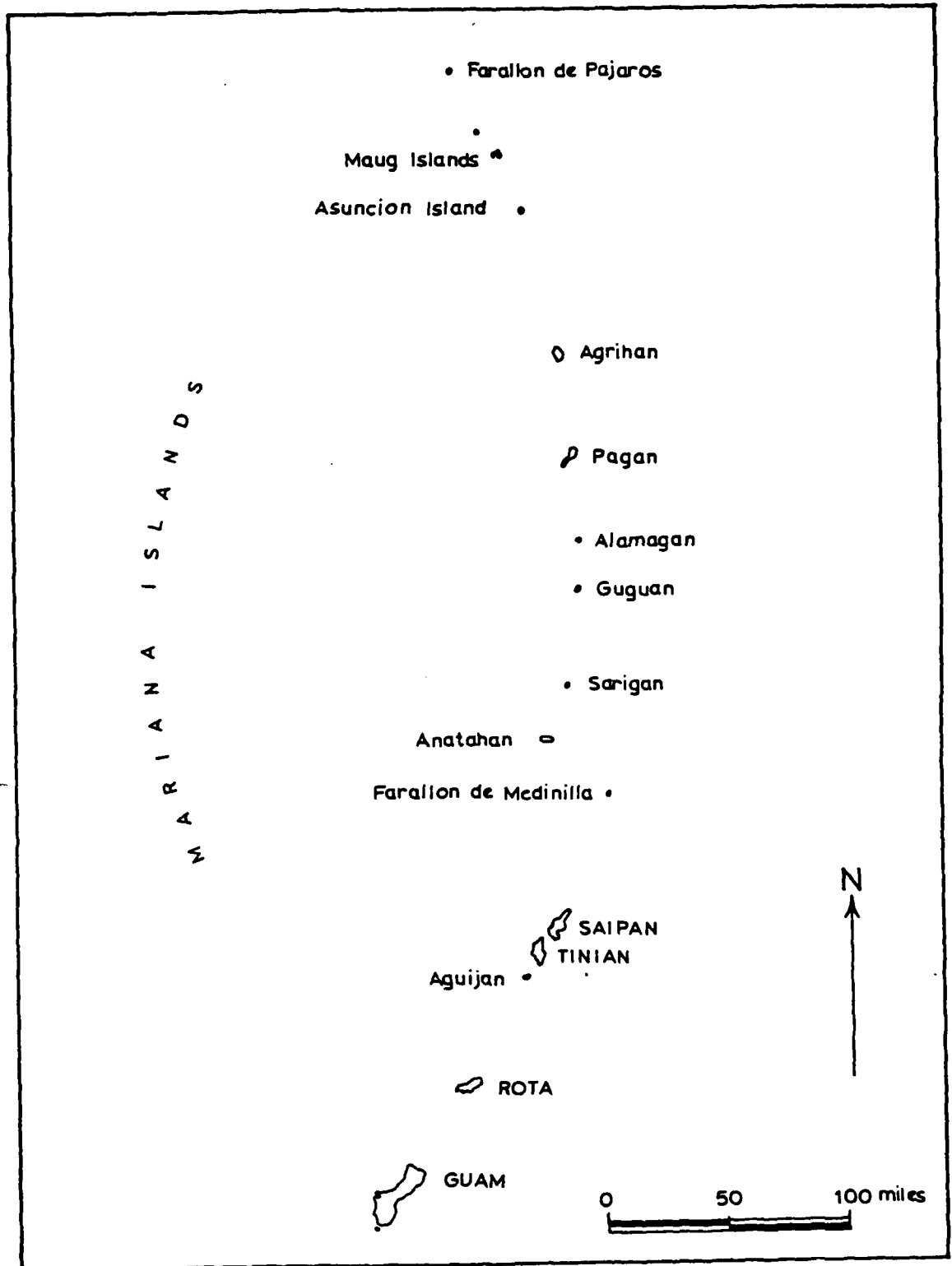


FIGURE 1. THE MARIANA ISLANDS

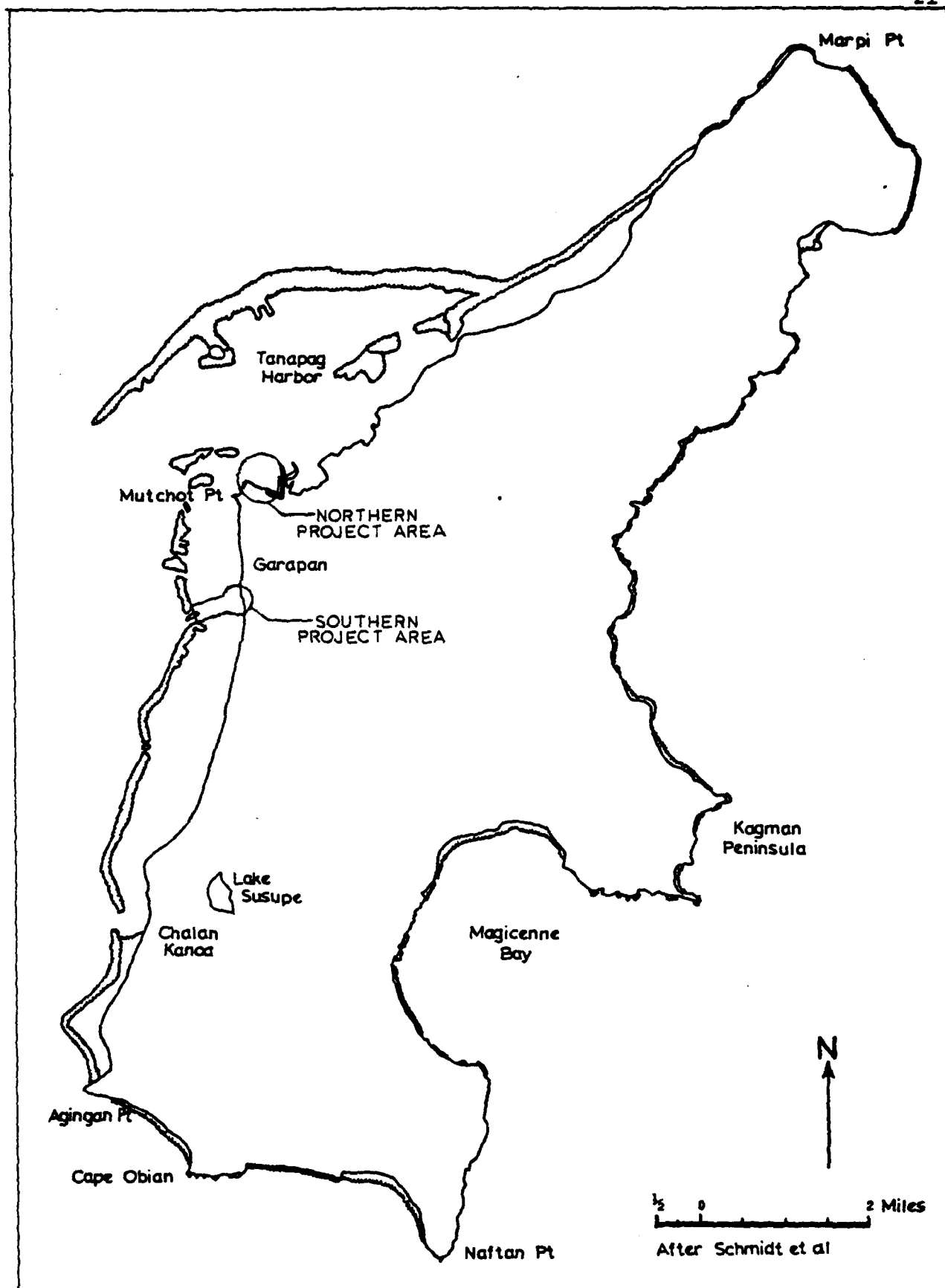


FIGURE 2. MAP OF SAIPAN SHOWING
PROJECT AREA LOCATIONS

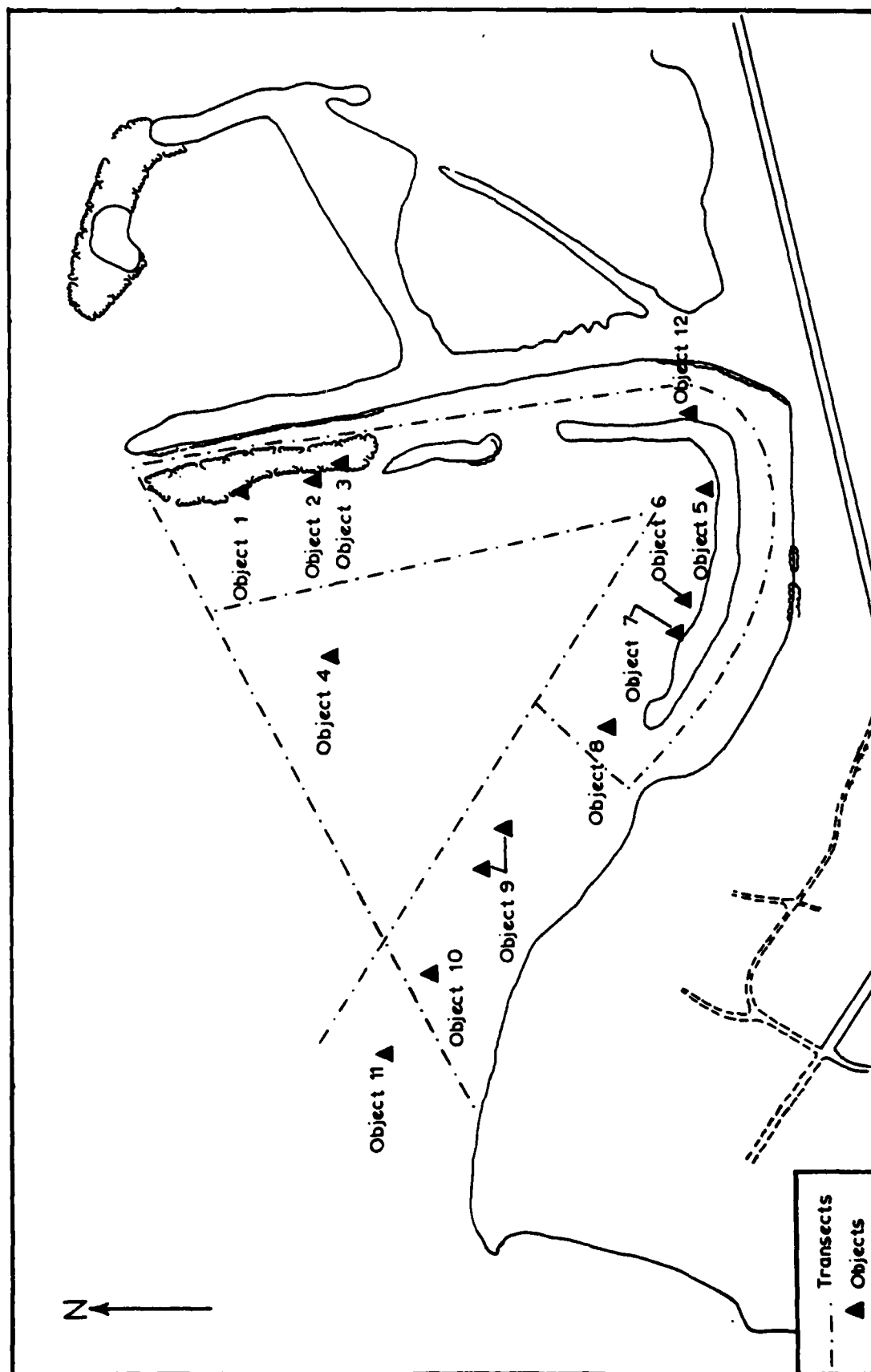


FIGURE 3. NORTHERN PORTION OF THE SURVEY AREA
SHOWING TRANSECT AND OBJECT LOCATIONS
(Not to Scale)

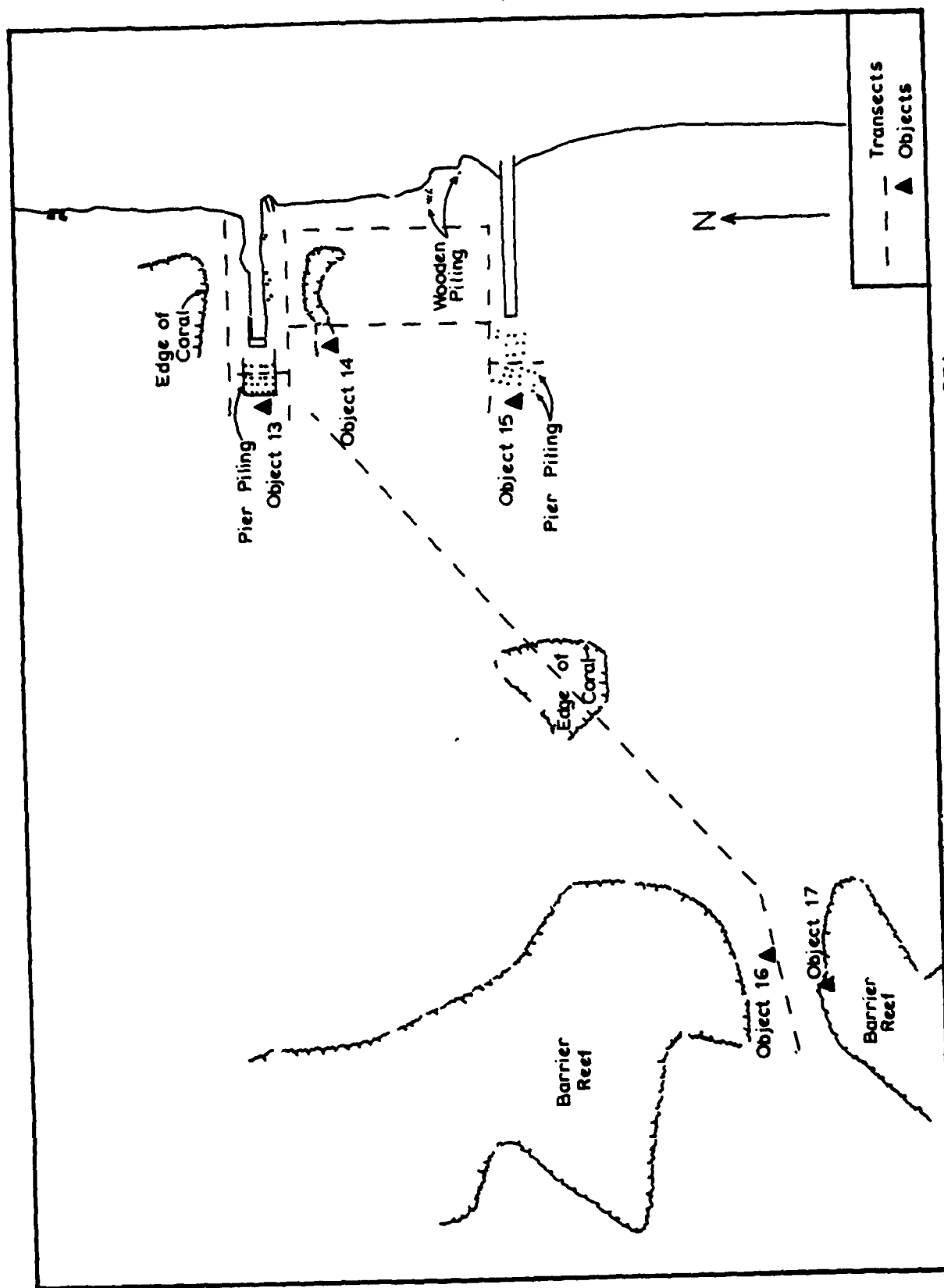


FIGURE 4. SOUTHERN PORTION OF THE SURVEY AREA
SHOWING TRANSECT AND OBJECT LOCATIONS
(Not to Scale)

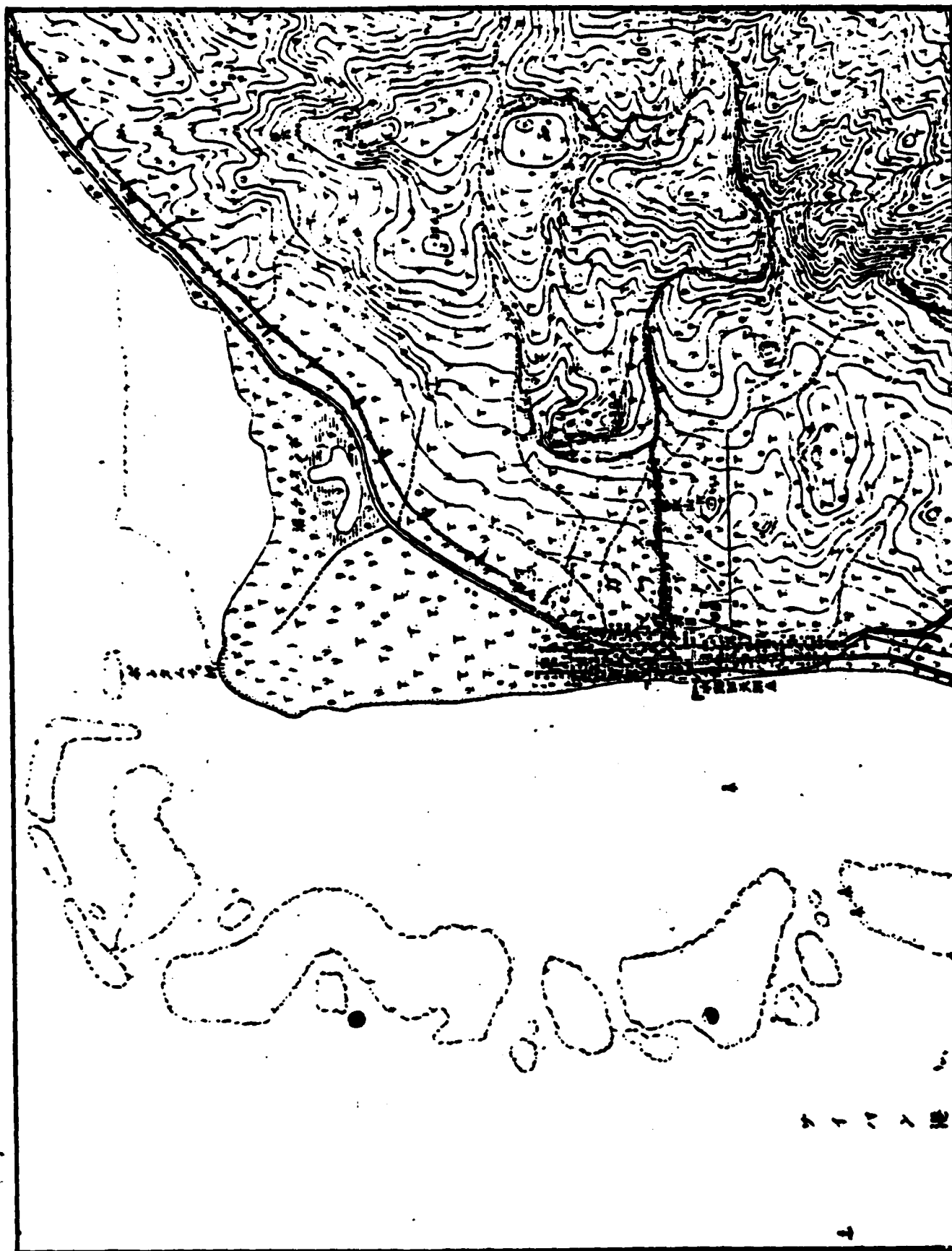


FIGURE 5. JAPANESE MAP OF WEST CENTRAL SAIPAN (1920's).



FIGURE 6: 1946 AERIAL PHOTOGRAPH OF MICRO BEACH AREA
(From the Saipan Museum)



Figure 7: Remains of a Japanese tugboat (Object 1) aground near the Small Boat Harbor entrance.

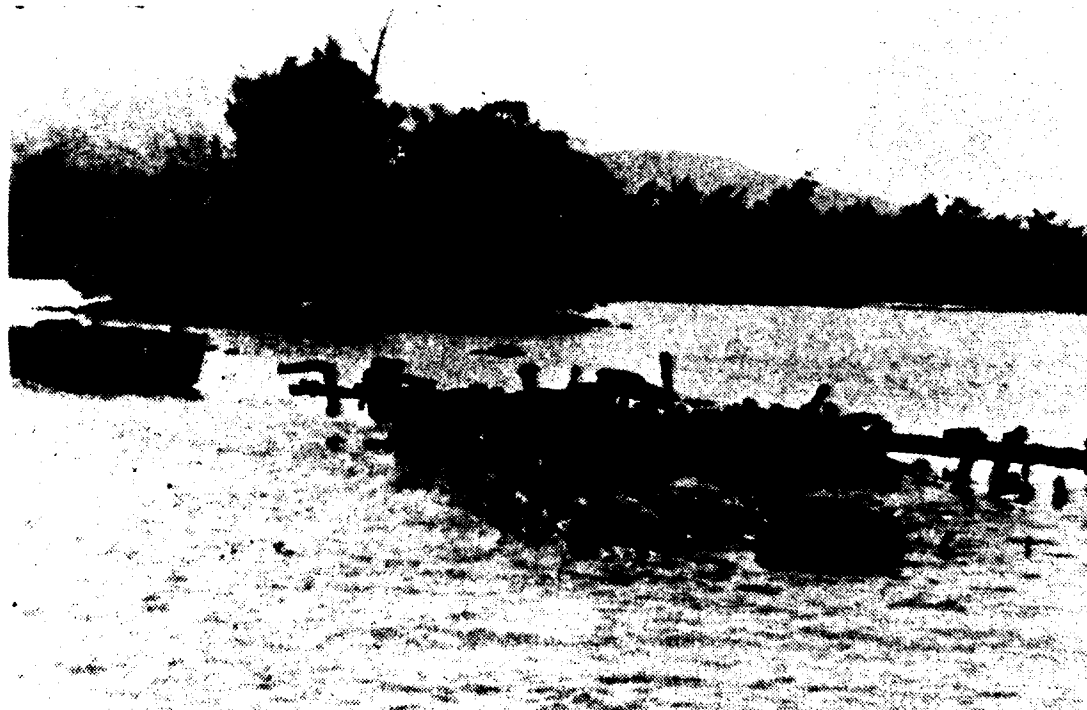


Figure 8: The remains of a possible American LVT (Object 2) in the foreground and an oil or fuel storage barge (Object 3) in the background.



Figure 9: Post-war metal debris scattered in the Micro Beach area.

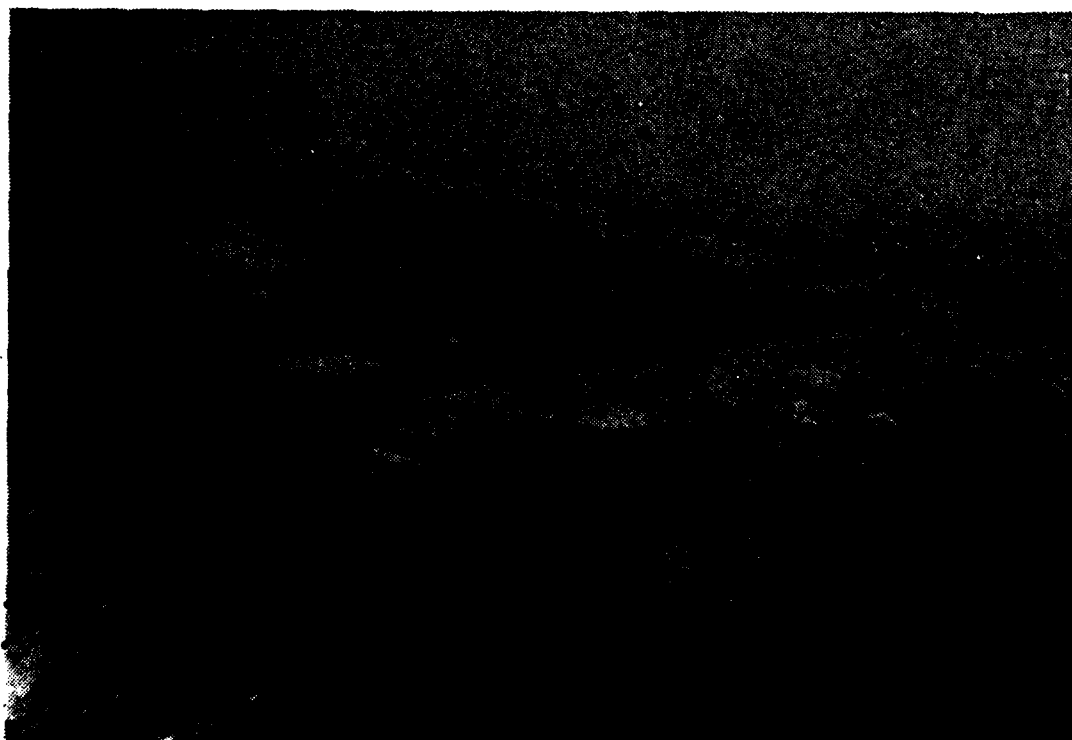


Figure 10: Possible steel pontoon (Object 14) of the type which was used by U.S. forces to support floating causeways or docks during World War II.



Figure 11: Multipurpose steel pontoons (Objects 6 and 7) aground in the Micro Beach area.



Figure 12: Steel harbor dredge (Object 9) used by the Japanese before World War II.



Figure 13: Small calibre Japanese anti-aircraft gun (Object 11).



Figure 14: Northern Fishing Base Dock in the Garapan area.

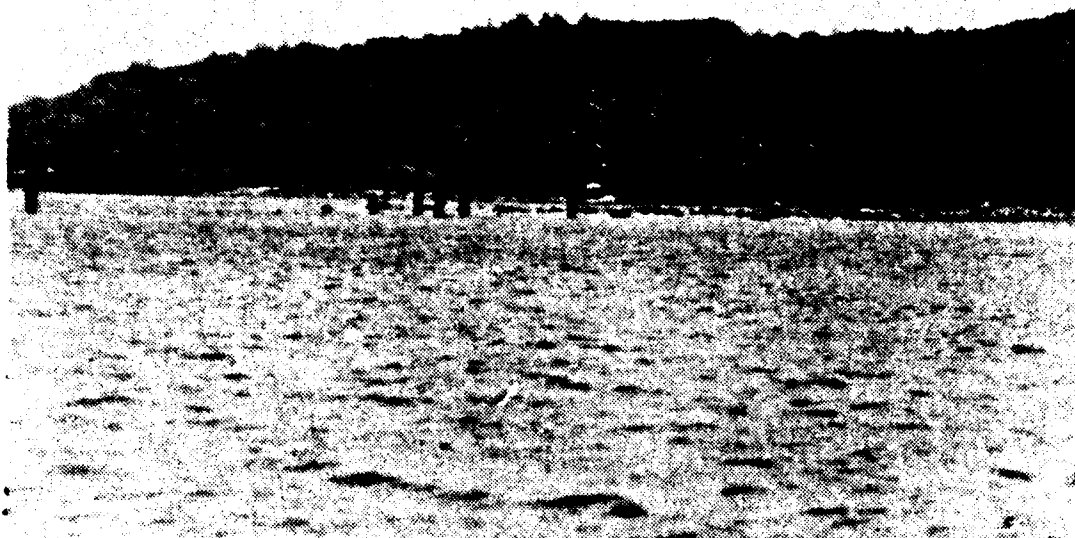


Figure 15: Southern Dock in the Garapan area.



Figure 16: Debris (Object 13) on the seaward end of the Fishing Base Dock.

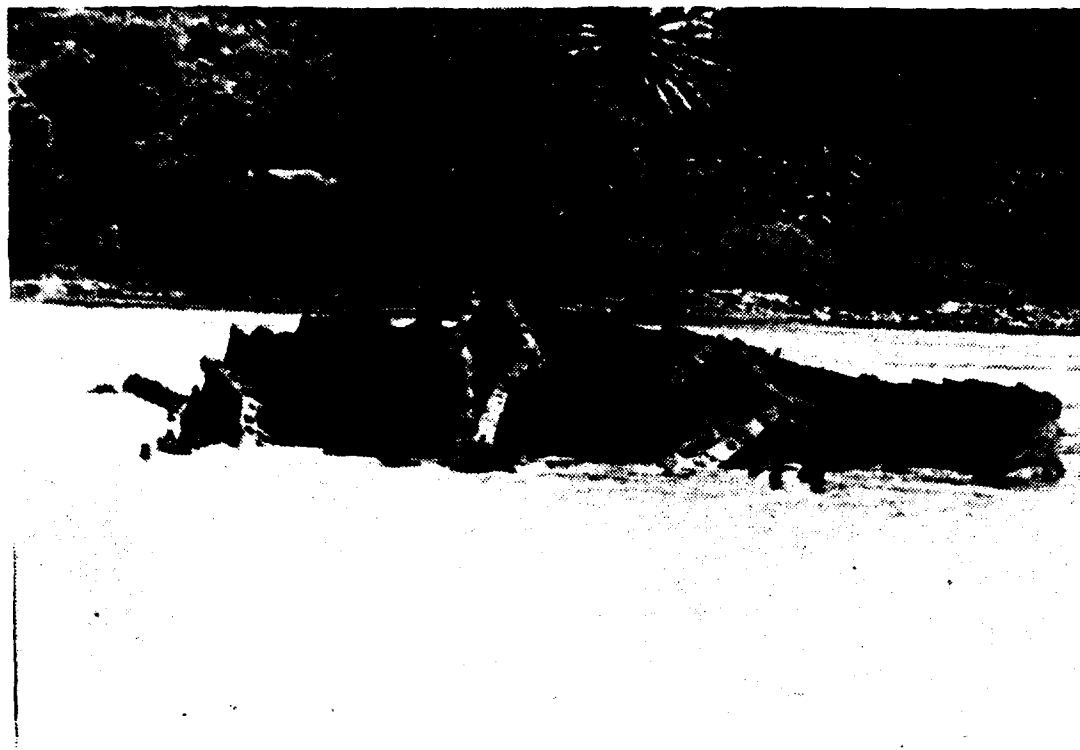


Figure 17: Multipurpose steel pontoon (Object 14) in the Fishing Base Dock area.

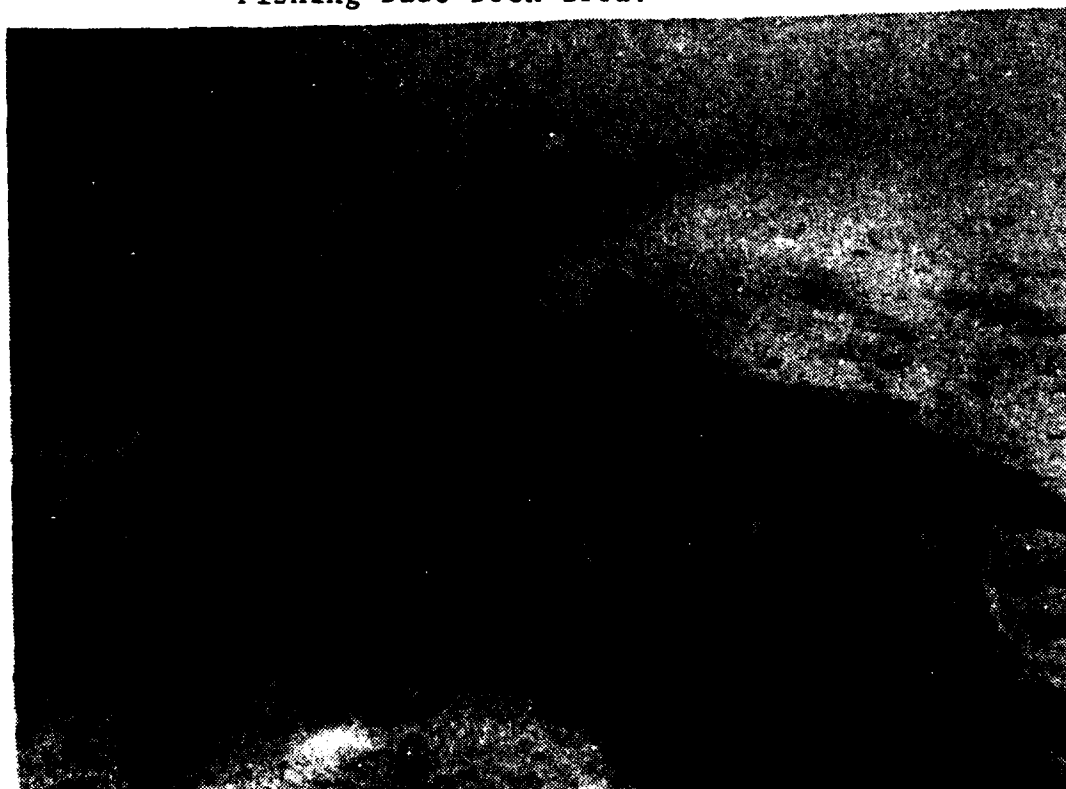


Figure 18: Debris (Object 15) scatter on the seaward side of the southernmost Garapan dock.

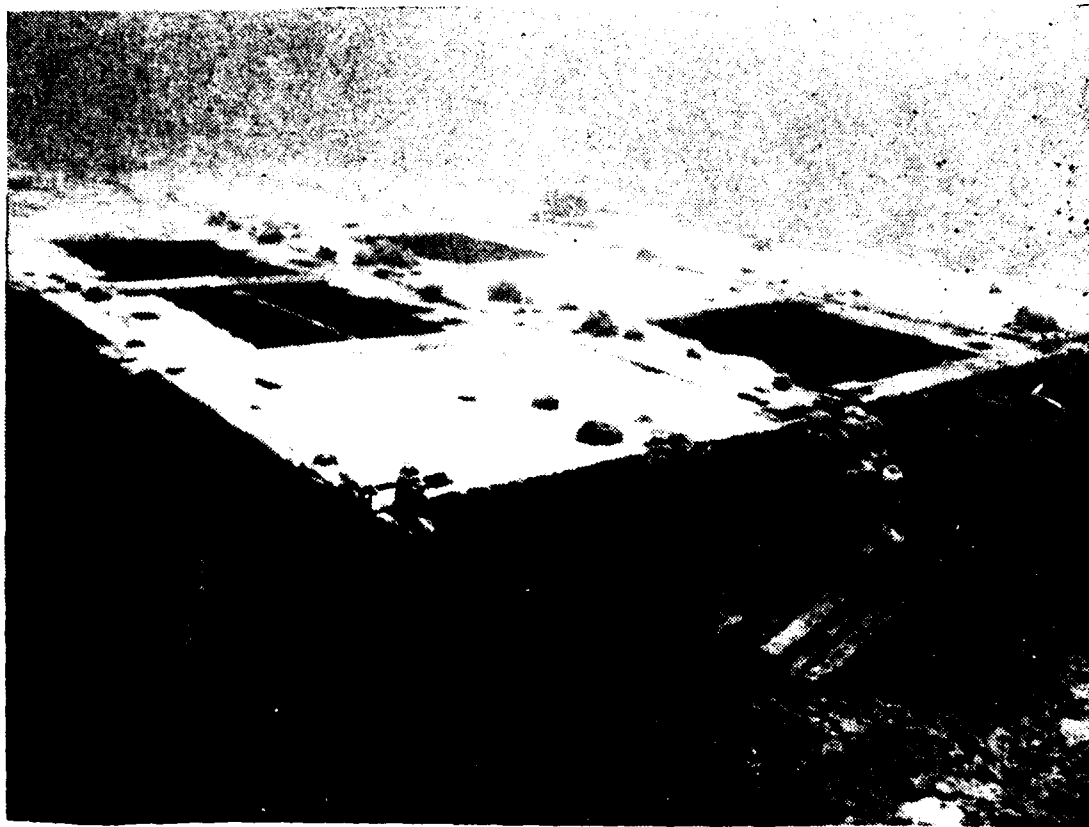


Figure 19: Multipurpose steel pontoon (Object 16) sunken in the Garapan Channel.



Figure 20: Japanese channel marker (Object 17) on the reef west of Garapan docks.

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